

GENERAL ASSEMBLY & TECHNICAL CONFERENCE

9-10 June 2015, Frankfurt

Speakers Biographies & Abstracts

Martin Engelmann – Plastics Europe



The EU's proposals for a circular economy – What are the concrete implications for plastics?

Even though the European Commission decided to withdraw its original proposal "Towards a Circular Economy", it promised to come back with a "more ambitious" proposal by the end of 2015. What are the critical points in the expected proposal for the plastics industry? What are the ideas the plastics industry is promoting to include into the proposal? The presentation will give a short overview about where we are in Europe regarding plastics waste management and then highlight the main issues for plastics which will be discussed in the months to come.

Martin Engelmann was born in 1973 in Rostock, Germany. Martin is a lawyer with a wide expertise in industry advocacy of more than 14 years. He was appointed Director EU & Government Affairs of PlasticsEurope in 2011. In addition to his role in advocacy, he is also the responsible Director for all waste related activities in PlasticsEurope.



Regulatory Challenges and Opportunities for the Automotive Supply Chain

The European Association of Automotive Suppliers (CLEPA) represents over 100 prominent suppliers of car parts and 24 trade associations of suppliers (including Euro-Moulders). Founded in 1959 and based in Brussels, CLEPA is recognized as the natural discussion partner by the European Institutions, United Nations and trade associations of the car industry. The presentation will focus on the main issues of interest to automotive suppliers currently discussed at European and global level and with more specific attention to issues likely to impact polyurethane foam producers.

Erik Vandervreken, a native of Belgium, is based in Brussels, where he works as Director Business Development & Services at CLEPA, the European Association of Automotive Suppliers.

He holds a Master degree in Electromechanical Engineering from Group T International University College Leuven and a Master of Professional Sports Management from Vlekho Business School.



OEM expectations in seating applications – emphasis on emissions: from measuring methods and requirements placed on vehicle interiors to specifications of flexible foams

Today vehicle interiors are a pleasant place to be – surrounded by high-quality materials and finish of the cockpit. This feeling of well-being is caused by improvements in terms of the HC-emissions, too. These arise from the interior materials and processing compounds for the construction of the indoor space of vehicles and are correlated to the wide use of organic materials.



Notwithstanding deviations to the extent and the degree of reaction of individuals (i. e. exposition levels of “normal” and “sensitive” passenger groups), the emphasis has to be put on substances that can be emitted and are likely to cause symptoms that may affect their (subjective) wellness.

This scenario can be avoided by deriving target values for the most pertinent of the homologation-relevant substances at the component level as an OEM for the First-Tier’s to follow. Deriving meaningful target values is a non-trivial process, however, due to the non-linearity and inter-dependence of several factors which have to be factored in when deriving target values for individual components.

Empirical research at BMW AG centered on iterative investigations of the emissions of component clusters, looking at the effect of parameters such as air exchange, temperature, conditioning (age), loading & dampening effects, etc., on emission rates.

In this lecture, an example of the testing methods used and model for the derivation of the BMW emission targets for interior polyurethane foams will be presented.

Furthermore, in light of the changing landscape of regional legislative requirements, an outlook will touch on future-relevant expectations.

Dr Leo Redcliffe studied organic chemistry at the Universities of Reading (England) and Stuttgart (Germany). After working as a chemist for Astra Zeneca and Bayer Healthcare, he joined BMW in 2013, where he focuses on non-fuel HC-emissions.

Dr. Wolfgang Witek is a chemical engineer graduated from the Universities of Erlangen-Nürnberg and Magdeburg. Since 2009, he leads the team synthetic leather, flexible foam and non-fuel HC emissions within BMW.



INNOVATION HACKING – How to do successful digital innovation

Chapter 1: Journey to the year 2020:

We travel into the year 2020 and experience, how we will live in the future and how technology and media will be used.

Chapter 2: Top 3 trends for 2015:

See and experience the top 3 trends for 2015: Internet of Things (focused on Automobile, Smart Living and the Internet of Me), Wearables, Fintech

Chapter 3: Innovation Hacking:

Tools and practices for successful innovation in the service industry along three steps: problem detection, product-market fit, idea hacking.

Norbert Hillinger studied Journalism and Organisational Communication in Graz, Austria. During his studies he worked as an editor for the German movie magazine CINEMA in Munich as well as for the Austrian newspaper Kleine Zeitung. Between 2007 and 2013 Norbert worked with TrendONE, a Hamburg-based company, specialised in worldwide micro trend research. In 2013 he left TrendONE and became a freelancing innovation consultant and trend scout who specialises in trend and innovation projects in Entertainment, Media, Retail and FMCG in Germany, Switzerland and Austria. His customers are e.g. Twentieth Century Fox, Paramount Pictures, H&M and Red Bull.

R. Van den Bosch - DOW/ISOPA and M. Baumgartner - EUROPUR



Isocyanates under the REACH Regulation – Where are we heading to?

Worker exposure to substances and the safe handling of chemicals are legitimately under scrutiny by regulators. This presentation will focus on product stewardship in the polyurethanes supply chain and discuss how industry can demonstrate that workers are well protected

Ronald van den Bosch joined Dow in 1984 after receiving a degree in chemical engineering. Before joining PU EH&S he did for many years TS&D and R&D rigid foams, worked both in the Netherlands and in Switzerland.



Ronald joined the Dow Polyurethanes product EH&S group in 2007 in preparation for REACH. His current role includes REACH Implementation Leader for Dow Polyurethanes, EH&S Issue Management, Sustainability and Compliance. He's leading the ISOPA Product Stewardship Cluster among other industry association activities.

Michel Baumgartner is the Secretary General of EUROPUR, the European association of flexible polyurethane foam blocks manufacturers, and of EURO-MOULDERS, the European association of manufacturers of moulded polyurethane parts for the automotive industry since November 2013. He spent most of his career representing trade associations in Brussels and holds a degree in political science from Sciences-Po Strasbourg, where he specialized in international relations and European law.

W. Frank – Europur TC Chairman



Safety Guidelines for the PU Foam Industry The new Ecoprofiles for flexible PU Foam

Wolfram will provide a status update on one of the main projects he is currently working on with EUROPUR's Plants and Workers Issues WG: the drafting of guidelines for the safe handling of chemicals in the PU foam industry. He will also provide the final results of the review of the ecoprofiles for flexible polyurethane foam performed with Thinkstep (formerly PE International) and explain how the industry can make use of these results.

Wolfram Frank is the Chairman of EUROPUR's Technical Committee. He has a long career in the polyurethanes business, having worked for over 30 years for BASF, notably in the USA, Hungary, France and Germany, before becoming the Secretary General of ISOPA from 2008 to 2012.

A. Aerts - Vita Group & Product Stewardship WG Chairman



Report from EUROPUR Product Stewardship WG

As Product Stewardship Chairman of the Europur Working Group, Adri Aerts will report on the activities of the WG: notably substances under scrutiny under chemical legislation, emissions from PU foam and other topics of importance for a good product stewardship in our industry.

Adri Aerts is the Technical Manager Vita Cellular Foams. With a Master of Science, MSc. Adri has over 28 years of experience in the PU foam industry.

M. Crowell - PFA



Regulatory Developments in the US and CertiPUR-US Update

Michael Crowell has more than 40 years of senior management experience in the polyurethane foam industry, including technical, manufacturing, sales and marketing positions. He has been named executive director of the Alliance for Flexible Polyurethane Foam and its CertiPUR-US® programme in July 2014. He will also be representing the Polyurethane Foam Association at our event.



Properties of flexible foams from CO₂-based polyols – an update

The usage of CO₂ as a feedstock for the production of polyols, which are suitable as polyurethane raw materials, has been investigated in industry and academia since the late 1960ies. Over the last years Bayer MaterialScience has developed together with several partners a process for the production of respective polyether polyols, which contain carbonate structures derived from the CO₂.

The commercial introduction of polyether-polycarbonate-polyols to the flexible foam market is planned for 2016. In this technical presentation it is intended to give an update on the results of recent investigations at Bayer MaterialScience.

The properties of polyether-polycarbonate-polyols itself and of flexible foams, in which the CO₂-polyol has been used as major polyol component, will be discussed. The properties of the foams with polyether-polycarbonate-polyols will be compared against foams made with conventional polyols.

Moreover the topic of sustainability of these polyols will be covered in the presentation: Due to the incorporation of CO₂ the respective polyols are considered as more sustainable products. The aspect of sustainability will be discussed and data, which have been obtained in the pilot lab and which have been evaluated by an independent third party, will be presented.

Lutz Brassat, Ph.D. in Chemistry from the Technical University of Aachen, Germany. He started his career in R&D, worked on organic semiconductors, application development for insulation boards and binders. He became Head of Application Development for the MDI raw materials business and since 2013 he is responsible for the Application Development Flexible Foam for the region EMEA.



Biosuccinium™ sustainable succinic acid for polyester polyols – Benefits for foam producers

Reverdia has developed Biosuccinium™ which is a unique 100% bio-based raw material. It has a 90% carbon footprint reduction potential compared to fossil based adipic acid. The use of Biosuccinium™ yields a polyester polyol and polyurethane product with a substantial renewable content and with an improved sustainability profile. Biosuccinium™ sustainable succinic acid has been evaluated as an alternative to adipic acid in various polyester polyols used in polyurethanes.

Application development work has shown that many different polyester polyols can be successfully synthesized from Biosuccinium™ in combination with many different diacids and diols. Furthermore, succinic acid can play a role in the chemical recycling process of waste streams such as (rigid) PU-foam and PET-waste, as well as in the mechanical recycling of PU flex foam into rebounded foam.

The results and conclusions of these evaluations will be presented highlighting the opportunities and benefits these might bring to the polyurethane foam industry.

This work is intended as a reference for the use of Biosuccinium™ in various polyester polyols and polyurethanes. It also serves as an invitation to the flexible foam industry to evaluate the opportunities biobased succinic acid might bring.

Lawrence Theunissen received a degree in Mechanical Engineering. He worked in the field of virtual product design and application engineering (CAD/CAE). He joined DSM in 2002, and since then managed application development activities for various business units in research and innovation environments. Since 2011 Lawrence works for Reverdia as Manager Application Development.

D-E. Hein – Fehrer



Report from EURO-MOULDERS TC Report

As Technical Chairman of Euro-Moulders, Dirk-Endres Hein will report on the technical activities of Euro-Moulders.

Dr. Dirk-Endres Hein received his Ph.D. in Chemistry at the University of Bielefeld/Germany with a thesis on special Tetrapyrrole molecules with anticancerogenic effects in photodynamic-Therapies in 1989. Afterward he started his “Polyurethane Life” at the R&D Department of an automotive interior parts supplier. Several years in slabstock R&D, process-technique, production and different management functions followed. After switching to the moulded flexible foam in 2002, he joined Fehrer Automotive and leads the Polyurethane R&D department and the Center of excellence “Polyurethane Technology” for the whole Fehrer group.

R. Stetter - Hochschule Ravensburg-Weingarten



From physical foam characteristics to driving experience

The car seat is the largest interface to the customer and the seat foam is the decisive component for seating comfort. This presentation seeks to explain possible links between measurable physical characteristics and the actual driving experience. These links concern properties like hardness, durability and vibration behavior. Also geometrical influences are discussed.

Dr Ralf Stetter is a mechanical engineer graduated from the University of Corvallis (USA) and of the Technical University of Munich. Next to his position as Professor for design and development in automotive technology at the Fachhochschule Ravensburg-Weingarten, he has been team coordinator ‘seating comfort’ at Audi from 2000 to 2004 and since 2006 is actively involved in consulting projects for OEMs and the automotive supply industry with seating systems and seat foams as main emphasis.



Assessment of emissions in automotive interior space

Tertiary amines are essential ingredients in all flexible foam formulations. The polyurethane production process has been transformed with the use of tertiary amine catalysts which lower the overall emissions to obtain improved worker safety and to satisfy increased consumer awareness. In the bedding and furniture industry this transformation is occurring at a different pace and geographic differences are seen. In the automotive market, original equipment car manufacturers (OEM) have started to set stringent limits on the maximum level of volatile organic compounds (VOC) allowed in the interior of vehicles. In recent years the use of next generation reactive low emission catalysts has become the standard in this industry. Some OEMs are now also setting limits on the permissible amount of aldehyde emissions generated in car interiors. The implementation of various chamber emission testing methods, together with the increased sensitivity of analytical techniques assessing levels of VOCs, has transformed methodology and is a growing area of importance. This paper provides an overview of the main emission measurement methods used in the interior space of the automotive sector and provides insights into the next generation additives and catalysts being developed.

Geert Dries is an application specialist at Huntsman in Belgium. He received his Bachelor degree in Chemistry from the Hoger Instituut der Kempen in Geel, Belgium in 1992. Immediately after graduating, Geert joined ICI (now Huntsman) working initially in the company's rigid foam group. Over the years that followed, Geert's role expanded into various polyurethane application fields and functions across Europe and the US. In 2011, Geert joined Huntsman's Performance Products division to strengthen the capabilities of a team dedicated to the development of innovative, new polyurethane additives.

G. Beyer - Kabelwerk Eupen



Nanocomposites as a new material science concept for flame retardant nonhalogen polymer composites

It has been shown that the heat release is the only one important fire hazard in the case of a fire and can be measured by cone calorimetry. Halogen-free flame retardant polymer composites become more and more important in Western Europe like for cables etc.

ATH-, MDH and other halogen-free flame retardants show a synergistic effect with nanodispersed fillers like organoclays forming nanocomposites. These filler blends result in a huge reduction of heat release and increased times to ignition. The reason for these improvements is the generation of an improved char. The mechanism will be discussed.

Examples of industrial applications and also some results improved flame retardancy of PUR-nanocomposites will be presented.

Dr Beyer is the R & D Manager for Materials & Head of the Chemical-Physical Laboratories of Kabelwerk Eupen . He studied at the Technical University RWTH Aachen and has a PhD (1984) in organic chemistry and photochemistry.

E. Van Eetvelde – Shell



Caradol, polyols for polyurethane foam applications addressing new VOC concerns

Shell has recently introduced the low monol continuous technology in their polyol plants in Europe and Singapore, converting the majority of its conventional polyol production from traditional batch process utilizing potassium hydroxide as the catalyst to continuous low monol production technology. The presentation will compare the processing performance and product properties of foams that are made from polyol produced by this technology and show how manufacturing processes and foam formulation techniques can continuously reduce VOC levels from polyols.

Els Van Eetvelde is a member of the R&D and Marketing Technical Service team for flexible polyurethane applications within the Shell Projects & Technology organisation. She studied chemistry in Ghent, Belgium and Breda, the Netherlands. After joining Shell in 1998, she has been involved in various polyurethane application development projects while leading technical support to Shell Chemical's polyol customers in EU, Africa and the Americas. She is also involved in Product Stewardship activities as chairperson of the One Step Ahead workgroup and as member of other PS workgroups within the ISOPA association.